

SASAMOTO *et al.*, SN 09/913,595
Amdt. dated 05/09/2005
Reply to OA mailed 02/08/2005

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IN THE CLAIMS:

1. (Currently Amended) A digital signal recorder for recording a digital signal on a recording medium, comprising:

key information generation ~~means for generating~~unit to generate at least one item of key information;

key generation ~~means~~unit which receives said key information and performs a prescribed arithmetic operation thereon ~~and to~~generate a key;

an encryption circuit which receives said key and said digital signal and encrypts said digital signal with said key, and outputs the resulting encrypted digital signal in a case where said digital signal needs copy protection; and

a recording circuit which records at least one of said ~~items~~at least one item of key information, together with said encrypted digital signal in a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection., ~~in prescribed area on said recording medium.~~

2. (Currently Amended) The digital signal recorder according to claim 1, ~~characterized in that~~wherein said digital signal has a packet format of a prescribed length.

3. (Currently Amended) The digital signal recorder according to claim 1, ~~characterized in that~~wherein:

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said key information generation unit has ~~means have~~ a function for updating said at least one item of said key information at a prescribed time interval; and
said recording circuit has a function for recording information capable of identifying timing ~~when~~ where ~~where with~~ said key information generation unit means ~~updates~~ updates said key information, ~~in prescribed area on said recording medium.~~

4. (Currently Amended) The digital signal recorder according to claim 3, ~~characterized in that~~ wherein:

said digital signal has a packet format of a prescribed length; and
said recording circuit has a function for adding information capable of identifying timing ~~where with~~ where said key information generation ~~means~~ unit updates said key information, and where such information is added to packets of said digital signal and ~~recorded~~ recording on said recording medium.

5. (Currently Amended) The digital signal recorder according to claim 1, ~~characterized in that~~ wherein:

said encryption circuit ~~further~~ has a function capable of selecting between a first function for encrypting and outputting said digital signal, and a second function for outputting said digital signal as is without encryption; and

said recording circuit has a function for recording, in a prescribed area on said recording medium, encryption flag information indicating whether or not said digital signal is encrypted, and, when not encrypted, not recording said key information.

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6. (Currently Amended) The digital signal recorder according to claim 5,
~~characterized in that~~wherein:

said digital signal has a packet format of a prescribed length; and
said recording circuit has a function for adding encryption flag information
indicating whether or not said digital signal is encrypted, to packets of said digital
signal, and a function for recording on said recording medium.

7. (Currently Amended) A digital signal recorder in which a digital signal of a
packet format of a prescribed length is input and divided into other prescribed
lengths; a synchronization signal, recording information signal, auxiliary information
signal, and first error correction code are added thereto to define a block format; one
track is formed by a prescribed number of blocks thus made; a second error
correction code is added in units of n tracks (where n is an integer 1 or greater); said
second error correction code is also divided and said first error correction code is
added thereto to constitute a block format; and said tracks are recorded on said
recording medium; comprising:

key information generation unit to generate~~means for generating~~ at least one
item of key information;

key generation unit to~~means which receive~~ said key information and to
perform a prescribed arithmetic operation to generate a key;

an encryption circuit which receives said key and said digital signal, encrypts
said digital signal with said key, and outputs the resulting encrypted digital signal in a
case where said digital signal needs copy protection; and

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a recording circuit which records at least one of said at least one item of key information, together with said encrypted digital signal in a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection, ~~in prescribed area on said recording medium.~~

8. (Currently Amended) The digital signal recorder according to claim 7, ~~characterized in that~~ wherein said recording circuit has a function for holding said key information in an auxiliary information signal area in said blocks and recording same on said recording medium.

9. (Currently Amended) The digital signal recorder according to claim 7, ~~characterized in that~~ wherein said key information generation unit ~~has means have~~ a function for updating said at least one item of said key information at a prescribed time interval; and said recording circuit has a function for recording information capable of identifying timing where ~~where~~ with said key information generation unit ~~means~~ updates said key information, in a prescribed area on said recording medium.

10. (Currently Amended) The digital signal recorder according to claim 9, ~~characterized in that~~ wherein said recording circuit has a function for holding said information capable of identifying said timing in a recording information signal area in said blocks and recording same on said recording medium.

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11. (Currently Amended) The digital signal recorder according to claim 9, ~~characterized in that~~wherein said recording circuit has a function for holding said information capable of identifying said timing in an auxiliary information signal area in said blocks and recording same on said recording medium.

12. (Currently Amended) The digital signal recorder according to claim 9, ~~characterized in that~~wherein said recording circuit has a function for adding said information capable of identifying said timing to packets in said digital signal and recording same on said recording medium.

13. (Currently Amended) The digital signal recorder according to claim 9, ~~characterized in that~~wherein said key information generation ~~means have~~unit has a function for updating said key information at points of separation between units of n tracks wherewith said second error correction code was added.

14. (Currently Amended) The digital signal recorder according to claim 7, ~~characterized in that~~wherein:

said encryption circuit has a function for encrypting and outputting said digital signal; and a function for outputting same as is, without encryption; and

said recording circuit has a function for recording encryption flag information indicating whether or not said digital signal is encrypted, in a prescribed area on said recording medium, and, when not encrypted, not recording said key information.

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15. (Currently Amended) The digital signal recorder according to claim 14, ~~characterized in that~~wherein said recording circuit has a function for holding said encryption flag information in recording information signal area of said blocks and recording same on said recording medium.

16. (Currently Amended) The digital signal recorder according to claim 14, ~~characterized in that~~wherein said recording circuit has a function for holding said encryption flag information in auxiliary information signal area of said blocks and recording same on said recording medium.

17. (Currently Amended) The digital signal recorder according to claim 14, ~~characterized in that~~wherein said recording circuit has a function for adding said encryption flag information to packets in said digital signal.

18. (Currently Amended) The digital signal recorder according to claim 14, ~~characterized in that~~wherein said encryption circuit has a function for switching to determine whether or not to encrypt said digital signal, at points of separation between units of n tracks wherewith said second error correction code was added.

19. - 46. (Canceled)